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## OBSERVATIONS ON SOME OF THE MORE IMPORTANT DISEASES OF CHILDHOOD.

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(From the *London Medical Gazette*.)



## OBSERVATIONS, &c.

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### I.—*On Endocarditis in Childhood.*

INFLAMMATION of the lining membrane of the heart is an affection of which no notice is taken in any treatise on the diseases of children, with the exception of the recent work of MM. Rilliet and Barthez. Incidental mention of its occurrence as a complication of scarlatina is made by Professor v. Ammon, in his account of a malignant epidemic of that disease at Dresden in the year 1832\*. Dr. Copland devotes a few lines to it in his Dictionary, and speaks of its occasional occurrence as an idiopathic affection. Some of the French journals contain observations on hypertrophy of the heart and diseases of the valves in childhood, but I believe that none of the writers allude to acute idiopathic endocarditis in the young subject.

The cases of acute endocarditis mentioned by MM. Rilliet and Barthez are three in number. In one of these cases the heart symptoms came on in the course of an attack of acute rheumatism; in the second slight febrile symptoms coexisted with a distinct *bruit de soufflet* and some pain at the heart; and in the third the auscultatory signs only were present, unattended either by fever or by pain in the precordial region. They do not, however, detail the particulars of any of these cases. They met likewise, in the course of their observation at the Hôpital des Enfans Malades, with thirteen cases of chronic organic lesions of the heart of various kinds; and they relate the history of one of

these cases in which acute endocarditis supervened on chronic valvular disease, and destroyed the patient.

My attention was first called to this affection in the spring of 1841, when I saw

Margaret Thomas, aged 3 years and 4 months, living at 86, Union Street, Lambeth Walk.

She is the delicate child of a phthisical mother, but her health was good till within the past year, since which time she has had two attacks of convulsions, and her general health has seemed less good.

She was, however, as well as usual until a few days before she came to me, when she was attacked by slight febrile symptoms, complained of great uneasiness, could get no rest at night, and began to suffer much from shortness of breath and palpitation of the heart; symptoms which have continued up to the present time.

A very loud *bruit de soufflet* accompanies and overpowers the first sound of the heart. It is heard both at the apex and at the base, but loudest in the latter situation, and is continued into the aorta. The second sound is clear. The heart's impulse is increased, and its sounds are heard over the whole chest, both before and behind.

Unfortunately I have preserved no record of the daily progress of the child, who recovered from her more urgent symptoms under an antiphlogistic plan of treatment. The *bruit*, however, continued, and the child remained short-

\* *Analekten ueber Kinderkrankheiten*, 11tes Heft. Seite 42.

breathed and liable to occasional returns of palpitation, which subsided on strict quiet being enforced and a mild antiphlogistic plan being pursued. I saw her last in May 1842, when the signs indicative of valvular disease continued unmodified.

Now, although in this case the patient was not seen at the very commencement of her attack, yet there does not appear to me to be any reason for supposing that the affection of her heart dated further back than the few days previous to her being brought to me, when she first complained of dyspnoea and palpitation of the heart. The following case was probably one in which acute endocarditis supervened on some chronic lesion of the heart.

George Cole, 43, Easton Street, Spa Fields, aged 5 years and 2 months, one of seven children, of whom five are still living, but one died while teething, and one of small-pox.

His father is strong and healthy; his mother is not strong, and phthisis is hereditary in her family, though she has never shown any symptoms of it.

George has usually had good health, except two years ago, when he was taken ill with symptoms similar to those from which he is at present suffering, and did not recover for some weeks. He has not had any of the usual diseases of childhood.

For some months he has had a slight cough, but was in other respects in good health, when he was attacked on February 13, 1843, with fever, thirst, and swelling, first of the face, afterwards of the limbs, and on the 14th his heart began to beat much, and whenever he attempted to lie down in bed so much dyspnoea came on as compelled him to resume the sitting posture.

On February 17th he was brought to me at the Finsbury Dispensary, when I ordered three leeches to the heart, a purgative every night to relieve his bowels, which were constipated, and a saline mixture, with six minims of tincture of digitalis, every four hours.

February 21.—The leeches greatly relieved his palpitation, though he still has considerable difficulty in assuming the recumbent posture. The anasarca has completely disappeared, and he makes water more freely than before, though his urine is still scanty, high coloured, abounding in the lithates, and loaded with albumen. He has a trouble-

some cough, unattended with expectoration, no appetite, considerable thirst, a dry harsh skin; bowels open, tongue pale and moist. The pulsation of his carotids is very evident; pulse 70, hard, thrilling, unequal in force about every fourth beat, but not irregular in rhythm.

On auscultating the chest a good deal of rhonchus and creaking sounds are heard, but the air seems to enter both lungs equally well.

The apex of the heart beats lower down, and more to the left of the nipple, than natural, and there is also extensive dulness over the heart. Its sounds are not clear, but have a muffled character, and a harsh bruit accompanies the first sound, and is heard most distinctly about half an inch below and a little to the left of the nipple, but is not continued into the aorta.

The digitalis was now discontinued, and a saline mixture, with small doses of tartar emetic, was given in its stead.

24th.—Breath less laboured; child can lie down more easily, and the palpitation is less troublesome. The medicine has caused much sickness; the urine continues scanty, high-coloured, and albuminous, and the inequality in the beats of the pulse, and the bruit with the first sound, remain as before.

The antimony was now discontinued, and small doses of liquor potassæ were given instead. The boy improved daily, and the note of March 10 is—Child very much improved; can now lie down easily; has but very slight difficulty in breathing; very little cough, and no palpitation. The bowels act regularly. The urine is abundant, natural, and free from albumen.

Pulse 100, the same inequality in its strength, and sometimes a distinct pause about every fourth beat. The action of the heart is not exaggerated, and there is no longer any bruit, but merely a roughness accompanying the first sound, and heard only near the apex.

The boy was soon afterwards discharged.

I observed a third case only a few months since.

Daniel Bain, aged 11 years, living at No. 37, Thomas Street, Stamford Street; is one of 12 children of healthy parents. Nine children are still living, one died while teething, one of scarlatina, and one of pneumonia. There does

not appear to be any phthisical taint in the family.

Daniel has had good health, with the exception of mild attacks of measles, hooping-cough, and scarlet-fever; and was as well as usual until May 8, 1843, when he complained of feeling cold, and began to cough. The chilliness was succeeded by fever, and he continued gradually getting worse till the 13th, when I visited him for the first time. He had had no other medicine than a purgative powder.

May 13th.—I found him lying in bed; face dusky, rather anxious; eyes heavy; respiration slightly accelerated; frequent short cough without expectoration; skin burning hot; pulse frequent and hard. The child makes no complaint except of slight uneasiness about the left breast.

There is slight tenderness on pressure over the heart, with very extended dulness. The heart's impulse is not increased. A very loud and prolonged rasping sound is heard in the place of the first sound; it is loudest a little below the nipple, though very audible over the whole left side of the chest, and also distinguishable, though less clearly, for a considerable distance to the right of the sternum. Second sound heard clearly just over the aortic valves, not distinct elsewhere, being obscured by the loudness of the bruit.

Respiration good in both lungs.

I ordered the child to be cupped to  $\frac{3}{5}$ vj. between the left scapula and the spine; and gave gr. j. of calomel, with the same quantity of Dover's powder, every four hours.

May 14th.—Sense of discomfort at the chest relieved by the cupping. He slept well during the night, and to-day looks less anxious, though his eyes are still heavy and suffused; the skin is less hot and less dusky; pulse 114, thrilling, but not full; tongue moister than yesterday, red in the centre, coated with yellow fur at the edges; has had one copious watery evacuation; slight prominence of the cardiac region. The heart's sounds are obscurer and more distant than yesterday; the bruit of yesterday is now manifestly a friction sound, which is louder at the base than at the apex of the heart; the first sound is altogether obscured by it, and the second is heard only over the aortic valves.

The child has had four powders. To

continue taking them every six hours. 3j. of strong mercurial ointment to be rubbed into the thighs every six hours. Six leeches to be applied over the heart.

15th.—There was considerable difficulty in stopping the bleeding from the leech-bites, which was so profuse as to make him rather faint. He slept tolerably during the night, and until 6 A.M., when he became light-headed, and continued so until 9 o'clock this morning, but has since lain quiet, though troubled by a dry cough.

His appearance is much as yesterday; skin dry and hot; pulse 120, possessing the same character as before, but with less power; tongue coated at the edges, with a dry, red, streak in the centre; bowels-open twice, motions green and watery.

Auscultation yields the same results as yesterday. Same treatment continued, with the addition of a saline draught containing small doses of the liquor antimonialis every four hours.

16th.—General condition much as yesterday, but on the whole seems slightly improved; pulse 120, softer.

The friction sound is no longer audible, but a loud rasping sound is heard in the place of the first sound. The second sound can now be distinguished at the apex of the heart as well as over the aortic valves, and is quite natural.

On the 17th the gums were slightly affected by mercury, and the bruit was thought to be softer and rather less loud. The dose of calomel was now reduced to gr. ss. every four hours, and the child was allowed a little broth.

On the 22d his mouth was very sore, and all active treatment was discontinued on that day. The child gradually regained his strength, but the bruit accompanying the first sound continued, and was heard a month afterwards with no other change than being rather softer and more prolonged.

I have notes of another case, in which a very loud *bruit de soufflet* accompanied the first sound of the heart, and was heard with greatest intensity below and somewhat to the left of the nipple. In this instance the disease was probably of long standing, since the heart's impulse was considerably increased, its apex beat considerably lower than natural, and there was extended dulness in the praecordial region. While the boy was under my care, his parents removed

from London, and I consequently lost sight of him.

The results of endocarditis appear to be, in the child as in the adult, either very distressing or comparatively slight, according as it is succeeded or not by hypertrophy and dilatation of the heart. It has seldom occurred to me to witness greater suffering than in the case of

Anne Leach, aged 10 years, living at 50, Turnmill Street, Clerkenwell, who first came under my notice in March 1842. She was one of five children of healthy parents, but her own health had always been delicate. For the last year she had been growing thinner, and had suffered from palpitation of the heart, and for three months had had cough; but I could not ascertain that any very marked febrile attack had ushered in her illness. Her parents, however, belonged to that class of poor who seldom pay much attention to their children's ailments.

When brought to me she was greatly emaciated; her face was anxious and distressed, her breath short, so that it was with difficulty that she walked even a short distance; she had frequent short cough without expectoration, and she suffered much from palpitation of the heart and a sense of discomfort at the chest.

The heart's action was violent; dulness in the praecordial region was very extended; a very loud, harsh, rasping sound accompanied the first sound of the heart, loudest towards the apex and to the left of the nipple, but heard over nearly the whole of the chest, both before and behind.

Various remedies brought slight but temporary relief to her sufferings, and she grew worse every month. She became more and more emaciated; the distress at the chest and the palpitation of the heart increased, her cough became more violent, and once she had an attack of haemoptysis. For about a month before her death the cough altogether ceased, but she was now unable to leave her bed, from increasing weakness; the palpitation continued unmitigated, and her extremities became slightly anasarcaous. During the last week of her life her respiration was extremely difficult, and became increasingly so till she died, on October 10th, 1842.

On a post-mortem examination, made thirty-six hours after death,—

Very little fluid was found in either pleura; both lungs were very emphysematous, and much congested, but neither they nor the bronchial glands contained any tubercle.

The heart was extremely large, but its right cavities did not exceed the natural size; the pulmonary valves were healthy; the edges of the tricuspid valve were slightly thickened; the left auricle was enormously dilated, but its walls were not at all attenuated; the pulmonary veins were much dilated; the left ventricle was dilated, and its walls were thickened; the chordæ tendineæ of the mitral valve were greatly shortened, so that the valve could not close; the valve itself was shrunk, thickened, and cartilaginous; and there existed likewise slight thickening of the edges of the semilunar valves of the aorta.

The other organs were healthy, except the mesenteric glands, many of which contained tubercles, which, in several, had undergone the cretaceous transformation.

In another somewhat similar case general dropsy came on, and the patient died of ascites and hydrothorax. In this instance, however, though the mitral valve was diseased, and dilatation, with hypertrophy of the left auricle and ventricle, existed, yet the symptoms, though greatly aggravated by the valvular disease, could not be altogether attributed to it. There existed in this case that narrowness of the aorta to which Meckel and Andral have called attention as a congenital malformation, occasionally giving rise to hypertrophy of the heart. It was not, however, till six months before the death of the child—a girl aged ten years—that her health was perceptibly affected, but she then began to suffer from palpitation of the heart, which at first was attended with febrile symptoms, afterwards with phenomena similar to those which occurred in the case of Leach, and which were terminated, as already mentioned, by ascites and hydrothorax.

In a third case I found the chordæ tendineæ much shortened, so as to keep the valve permanently open; and the valve was opaque, thickened so as to resemble cartilage, and presented a puckered appearance as if shrunken by the action of boiling water. The patient was a phthisical boy, five years

old, in whom no symptom or physical sign of disease of the heart existed till five months before his death, when he had an attack of inflammation of the left pleura, terminating in effusion into its cavity. A loud *bruit de soufflet* accompanying the first sound then became audible, and continued so till his death; but the general indications of cardiac disease were masked by the graver phenomena which attended the pleurisy and the extension of the tubercular disorganization of the lungs.

These cases, which are all that have at present come under my notice, are, I think, sufficient to shew that inflammation of the lining membrane of the heart does occasionally occur in children as an idiopathic affection, and wholly independent of rheumatism. It has so happened, indeed, that though I have had the opportunity of observing the diseases of above 5000 children at the Children's Infirmary, since May 1839, I have met with but one case of affection of the heart occurring in the course of rheumatism. This circumstance, however, I regard as merely accidental, and do not by any means infer that idiopathic endocarditis is more frequent in children than endocarditis as a result of rheumatism. I could not connect the occurrence of endocarditis with any attack of scarlatina, though I directed my inquiries particularly to that point; nor in any of the post-mortem examinations of children who died of dropsy after scarlatina during the epidemic of 1839, did I notice any indication of inflammation of the endocardium, though Von Ammon's observations prove the occasional

connection of the two diseases. It is, perhaps, worthy of note that tubercle was present in some of the internal organs in all the three fatal cases, though extensive tubercular disorganization of the lungs existed only in one instance. The mother of M. Thomas was affected with phthisis at the time when she brought her child to me; phthisis was hereditary in the family of G. Cole, and the boy himself presented all the peculiarities of the strumous habit in a very marked degree.

The disease does not appear to be one which tends to an immediately fatal issue, though its sequelæ in the child as well as in the adult are often very distressing, and greatly shorten life. Its early diagnosis is, therefore, a matter of considerable importance. It does not seem to be always announced by very striking symptoms, but a febrile attack of no great intensity, accompanied by increase of the heart's action, are often the only heralds of its onset. Since, then, a disease so grave may commence with such comparatively trivial symptoms, it is a matter of great practical moment never to omit auscultating the heart, even in a case of what may seem to be merely a mild attack of simple fever.

I have nothing to add with reference to the treatment, since there does not appear to be any reason for deviating from that plan which would be proper in the adult. I regret, however, that in some of the cases above related I did not adopt more energetic measures than those to which I resorted.

## II.—On a Peculiar Form of Croup which occurs as a Complication of Measles.

DURING the autumn of 1842 diarrhoea prevailed to an unusual extent among the patients at the Infirmary for Children. The period of its greatest prevalence was the month of August, when 71 out of 168 patients admitted under my care, or 41 per cent., were suffering from it. In September the cases of diarrhoea sank to 24, in October to 14, and in November to 8 per cent. of the

total monthly admissions. In proportion, however, as the diarrhoea declined, catarrhal affections of the air-passages became frequent. Bronchial catarrh, which, in the month of August, existed in only 11 per cent. of the cases, attacked 20 per cent. in September, and 28 per cent. in October; and, though it became less frequent in November and December, still 18 per cent. of all cases

admitted in December were affected by it. In the month of July 1842, at which time diarrhoea first assumed an epidemic character, affecting 30 per cent. of the patients, cases of measles began to occur more frequently, and the disease soon became epidemic, though for many months it had occurred only as a sporadic affection. Measles continued to prevail epidemically during the whole of the autumn, but did not reach their maximum frequency until the end of November and commencement of December, in which latter month 20 per cent. of all patients who came under my care were affected with them. Measles became less frequent in the beginning of 1843, and their place, as an epidemic, was taken by hooping-cough, which has been the sole epidemic of the present year.

The epidemic constitution of the whole period from the autumn of 1842 until the following spring, which, moreover, shewed its character by an unusual prevalence of that form of ulcerative inflammation of the mucous membrane of the mouth known by the name of stomatitis, appears to have imparted something of its peculiarities to the measles then epidemic, giving rise to a very insidious and dangerous complication, which consisted in an affection of the mucous membrane of mouth and air-passages more nearly resembling diphtheritis than ordinary croup.

In no English work have I found any account of this complication of measles, beyond the mention of the occasional occurrence of croup during the progress of the disease, or as one of its sequelæ. The slight notice taken of it by continental authors would likewise lead to the inference that it is not often a grave complication of measles in other parts of Europe. MM. Rilliet and Barthez, the most recent and most trustworthy writers on children's diseases, expressly state\* that the inflammation of the pharynx and larynx which supervenes in the course of measles is generally of but slight importance, that its symptoms are seldom grave, and the lesions which it produces are seldom serious. To this general rule, however, there are some notable exceptions: thus, in the years 1837-38, an epidemic of measles prevailed in the

district of Besigheim \*, in the kingdom of Wurtemberg, in which the period of desquamation was often attended with an extremely perilous secondary croup, accompanied with very extensive formation of false membranes in the air-passages. During the prevalence of an epidemic of measles in the year 1835, in Sigmaringen† and the adjacent country, false membranes formed on the tonsils and palate, accompanied with other symptoms of croup; but this diphtheritic affection existed only in one parish, though a tendency to it shewed itself in other parts by the formation of aphthous ulcers about the tongue. A similar complication, too, existed in some cases during the very fatal epidemic of measles at Bonn, in the years 1829 and 1830‡. An examination of the periodical literature of medicine would probably discover many instances in which measles were complicated with croup or diphtheritis. My present object, however, is not to write a history of the epidemics of measles, but simply to describe what came under my own notice.

None of the six cases of which I have preserved a record presented, at the outset, any peculiarity. The preliminary catarrh was not more severe than usual, nor was the eruption of measles either more or less abundant than in cases where no such complication occurred. In one instance the throat affection came on on the second day of the eruption; but in the other cases not until its decline, or till the period of desquamation had commenced. In the first case that I met with, that of an infant at the breast, of the name of Newell, living at 19, Prince's Court, Commercial Road, Lambeth, the attack of measles had been comparatively mild; the child had reached the sixth day from the appearance of the eruption, and everything seemed to promise a favourable convalescence. On the seventh day there was slight drowsiness, with some increase of the morbillous catarrh, but there seemed to be so little to excite anxiety in the symp-

\* For an account of this epidemic, see Dr. G. C. F. Hauff, *Medizinische Abhandlungen*, 8vo. Stuttgart, 1839, S. 79.

† Described by Heyfelder, in his *Studien im Gebiete der Heilwissenschaft*, Stuttgart, 1839, 8vo. ii. Band, S. 9.

‡ Described by Wolff, *De morbillorum epidemia annis 1829 et 1830*. Bonnæ, etc. grassante. Bonn, 1831.

toms, that I did not visit the child till the ninth day. I found it then labouring for breath, with all the symptoms of croup in a far advanced stage, and with great prostration of strength. These symptoms had then existed for twenty-four hours, and in twelve hours more they terminated in death. The child had had considerable inflammation of the mucous membrane of the mouth, with small aphthous ulcers on it and on the tongue, from the third day of the eruption. I was not, however, at that time aware of their betokening the existence of more serious mischief.

Another case, in which the croupy symptoms were well marked, though not so rapidly fatal as in the preceding instance, was that of—

John Mayhew, *aet. 4½ years*; residing at 2, James Place, Union Street, Southwark. This child had good health until January 20, 1843, when he was taken ill; and on the 22d the eruption of measles appeared on him abundantly: he seemed going on well until the night of the 25th, when he began to cough, and on the 26th his breathing became difficult, and from that time grew worse and worse.

His mother had applied four leeches to the throat, had given him medicine and fomented his chest without relief; and brought him to me on January 28.

The remains of the eruption of measles were still to be seen on his face and back; his countenance was heavy and oppressed, breathing difficult, rather hurried, loud wheezing attending the inspiration, occasional slight hoarse cough, without much clangor. Pulse full, bounding, but easily compressible. Tongue red and raw, with slight aphthous spots upon it, and one or two similar spots upon the tonsils, which, however, were not very red, nor covered with false membranes. He had had on that day, for the first time, some difficulty in swallowing, and also occasional attacks of dyspnœa, in which suffocation seemed impending.

No unnatural sound was detected in either lung, but the air entered very imperfectly.

The case did not appear to be one in which depletion was admissible. I therefore ordered a solution of half a grain of the sulphate of copper every ten minutes till free vomiting should be produced, and to be continued after-

wards every hour, and a drachm of the strong mercurial ointment to be rubbed into the thighs every two hours.

At 7 P.M. I visited him again. He had taken nine doses of the medicine, after the second of which he vomited, but the vomiting had not recurred. There was rather less dyspnœa than in the morning, and the child was sleeping quietly when I came in, but was easily roused, and when awake his face presented much less of that expression of anxiety which it wore in the morning.

I now discontinued the sulphate of copper, but directed the mercurial ointment to be still rubbed in, and ordered gr. ij. of calomel with gr. ¼ of tartar emetic to be given every two hours.

January 29, 10 A.M.—Slept much through the night, but had had two or three accessions of very urgent dyspnœa, and his mother considered him worse. He had made one effort to vomit, but rejected only a little phlegm, and that without any relief; and his bowels had acted twice. He was sitting upright in the bed, with much anxiety expressed in his face; jugular veins much distended; inspiration hissing; cough painful; and more suppressed than on the previous day. He swallowed tolerably, but distressing cough sometimes followed deglutition. He complained of his chest, and said his throat hurt him when touched.

The skin of the body was hot, but the extremities were cold; the pulse was about the same in frequency as on the day before, but it had lost power. His tongue was still red and raw, but there was no great redness of the fauces, nor were there any specks of false membrane upon them; there was considerable ulceration of the gums, and some foetor of the breath.

The calomel was now discontinued.

The mercurial inunction was still employed: gr. ij. of ammonia with  $\text{m}\text{lx}$ . of tincture of squills and half an ounce of the decoction of senega were given every two hours.

In the evening the child was much the same, but the pulse was 140, and interrupted by occasional paroxysms of dyspnœa. I found him at 10½ A.M. on January 30, sitting up in his mother's arms, being unable to lie down; his face flushed and extremely anxious, the perspiration standing in big drops on his forehead, looking round with an

expression of unutterable distress, as if in quest of relief. Respiration hissing, voice quite reduced to a whisper, cough hoarse, and without any clangor; and air entering the lungs but scantily. Gums very sore, fauces red, a little false membrane on the tonsils.

A blister was now applied to the upper part of the chest, the inunction was continued every three, and the ammonia given every two hours.

In the course of the evening he became able to lie down, but sank into a comatose condition, in which he continued with occasional intervals during the 31st of January, and until 6 A.M. on February 3d, when he died.

On the day before his death he appeared to breathe with far greater facility than he had done for some days. His face lost much of its anxious expression; the respiration became noiseless and unattended with effort; the cough less smothered; the voice, though still a hoarse whisper, was more distinct, and when aroused he answered rationally, and his mind no longer wandered. At midnight, on February 2d, however, these treacherous appearances vanished, and in six hours he died.

On examining the body after death, the lower third of the lower lobe of the right lung was found in a state of red hepatization; the bronchial glands were red and swollen.

The soft palate was thickened and cedematous, and there was a small ulcer on the right side of the uvula.

The under surface of the epiglottis, and the mucous membrane of the larynx, were generally rough and granular, looking as if eroded by innumerable little ulcerations. Their surface presented a dirty ash grey colour, was not coated with false membrane, but only with a little dirty mucus.

The trachea was red in patches, intensely so for an inch above the division of the bronchi. The larger bronchi were intensely red, and those on the right side contained a frothy reddish fluid, but the smaller bronchi were not injected.

The brother of this child, a fine infant about a year old, was taken with measles at the same time. In him the measles were complicated, almost from the outset, with pneumonia, and the croupy symptoms which came on on the third day were less distinctly

marked. His gums became sore; his tongue red, raw, and ulcerated; he lost his voice, had a croupy cough, though unattended with clangor: his dyspnœa was less urgent than in his brother's case, but, like him, he sank into a state of coma, and died on the seventh day. I was unable to obtain a *post-mortem* examination.

In all of the three above-mentioned cases the nature of the affection was sufficiently obvious, and in two the croupy symptoms were well marked. Sometimes, however, much greater obscurity attends the diagnosis. The child is evidently more ill than the mere existence of measles will account for, but it makes no definite complaint, and it cannot be ascertained that any organ in particular is suffering. There is considerable drowsiness, disinclination to swallow, and reluctance to speak, but cough may be absent; no croupy sound accompanies the respiration, and the child speaks in so low a tone that it is hardly possible to appreciate any alteration in the tone of its voice. In such a case I overlooked the dangerous complication till too late. The patient was a little girl, five years of age, named Jenkins, living at 13, William Street, Waterloo Road. She was attacked with measles, and I watched her the more sedulously because she had had several attacks of croup. The eruption came out naturally, and there was nothing unusual in the case except a preternatural drowsiness, which existed almost from the outset of the disease. The respiration was rather hurried; the pulse frequent, and without power; but there was neither cough nor croupy sound in breathing, nor did auscultation detect any serious mischief in the lungs. Still the child grew more and more drowsy; she took hardly any drink, never spoke, her pulse grew more frequent, and she sank into a state approaching to coma. I now bethought me of what I had hitherto neglected, and examined the state of the mouth. The fauces were very red and much swollen, and shreds of false membrane covered the tonsils and palate. Twelve hours afterwards, on the fifth day of the disease, the child died.

Ellen Douglas, aged 21 months, living at 7, Prince's Court, Commercial Road, Lambeth, was taken with measles on Dec. 9, 1842. She had a cough

from the first, and the measles were associated with double pneumonia, which was combated by local depletion, and the administration of calomel and antimony. For a few days the child seemed to improve, but on the 16th she became worse, dozing for a short time, then suddenly starting up in the bed, as if in alarm. She grew habitually restless, was much troubled by hacking cough, and often refused drink, though she did not appear to have any particular difficulty in swallowing. Her voice became hoarse, this hoarseness terminating, some days before her death, in almost total aphonia. Still there was at no time any stridor in the breathing, or marked croupy symptom; but the tongue was red and raw, and little aphthous ulcers appeared at its edges, and the gums were sore; a circumstance attributed, probably erroneously, to the mercury that had been administered. Her restlessness increased, her strength declined daily, but no new symptom showed itself until the 24th, when, though her dyspnoea did not seem increased in urgency, she would not lie down in bed, but continued sitting upright in her mother's arms, or in bed; and if laid down for a moment, she would instantly start up into the sitting posture. She continued thus until 6 A.M. on Dec. 25th, when she died.

After death, lobular pneumonia in the first stage was found in the upper lobe of the left lung; vesicular pneumonia, and grey hepatization of the greater part of the lower lobe. There was general lobular pneumonia, in the first stage, in the right upper lobe, with one patch of red hepatization; grey hepatization of the middle and lower lobes, with some vesicular pneumonia, in the lower.

The root of the tongue, and posterior part of the pharynx, were covered with shreds of false membrane, and the surface of the epiglottis presented a similar appearance, little excavated ulcerations seeming to occupy the site of the epiglottidean glands. The whole of the œsophagus was much congested, and lined by a complete tube of false membranes, which reached to within about an inch of the cardiac orifice of the stomach, and terminated in an irregular edge.

The lower surface of the epiglottis was coated with false membrane, and

presented ulcerated spots just like those on its upper surface.

The mucous membrane covering the arytenoid cartilages was puckered and swollen, and the aperture of the glottis was much narrowed, partly by swelling, partly by deposit of false membrane.

Dirty greyish false membrane lined the larynx, filled up the interval between the true and false chordæ vocales, and obliterated the entrance to the sacculus laryngis. On removing the false membrane, the surface of the larynx appeared uneven as though worm-eaten, but not at all red or congested.

The false membrane did not extend below the larynx; the trachea was not at all congested, and contained only a small quantity of mucus.

The last case that I have met with was that of Evelina Turner, aged eighteen months, living in Pearl Row, Blackfriars Road, who was suffering, when admitted under my care, from diarrhoea following measles. The eruption had disappeared four days; the diarrhoea was severe, attended with tenesmus and bloody stools; and there were small aphthous ulcers in the inside of the mouth. For four days she appeared improving: she then was not brought to me for three days; and at the end of that time she returned with difficulty in deglutition, almost complete aphonia, slight croupy sound in breathing, and false membranes coating the intensely congested soft palate. In twenty-four hours more the child died.

The lungs were inflamed, and in some parts the pneumonia had reached the third stage.

The soft palate, fauces, epiglottis, and upper part of the pharynx, were intensely congested, and covered with false membrane, which was closely adherent, and extended for about an inch and a half into the œsophagus.

The larynx was lined with pus, and covered with a false membrane similar to that on the pharynx; its mucous membrane was intensely congested, but not ulcerated. This congestion terminated abruptly at the lower margin of the thyroid cartilage, and the trachea was quite pale, though containing some puriform fluid.

The foregoing details render any lengthened observations unnecessary. They show that an affection of the air-passages, dangerous in its character, often obscure in its symptoms, does oc-

asionally occur as a complication of measles. They display a two-fold mode of attack, according to which the disease is either clearly marked, and attended from the first with obvious croupy symptoms, or its character is masked and its cause insidious. Its tendency is seen to be to produce a fatal result, while the violence of the symptoms during life affords no index from which to infer the amount of mischief which a post-mortem examination may reveal. Its hazard is further increased by the frequent coexistence with it of inflammation of the lungs, which, moreover, serves to throw the symptoms of croup into the shade. The existence of this affection, however, may be suspected wherever there are universal drowsiness, disinclination to swallow or difficulty in the act of deglutition, reluctance to speak, or alteration in the tone of the voice, even though there may be no croupy cough nor stridulous breathing. This suspicion would be raised almost to certainty, if the gums have a spongy appearance or be actually ulcerated, if

the tongue be preternaturally red and raw, and if small aphthous ulcers be visible on its edges and on the lining membrane of the mouth. In such a case, an examination of the fauces, which ought never to be omitted, will usually disclose redness and swelling of the soft palate, and usually, though not invariably, the presence of false membrane.

A depressed state of the system, such as wholly to contraindicate depletion, accompanies the local affection. The employment of calomel, and of those measures usually resorted to in the treatment of inflammatory croup, is wholly inefficient; while it seems probable that success would attend the early and efficient application of caustics, as in ordinary cases of diphtheritis. Still the case of J. Mayhew shows that the development of false membrane on the fauces is not an invariable occurrence, that fatal mischief in the larynx may exist without it, and consequently that a favourable issue could not be anticipated in every case, even from the most timely use of cauterization.

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### III.—*On some Forms of Paralysis incidental to Infancy and Childhood.*

IN his work on the "Nature and Treatment of the Distortions to which the Spine and the Bones of the Chest are subject," Mr. Shaw devotes a chapter to an "Enquiry into the causes of the partial paralysis and wasting of one of the limbs during infancy, which frequently produce distortion of the spine." He describes some cases in which there was simple atrophy of one limb, unattended with much defect either in the power of motion or of sensation; though a measure of impairment in the motive power came on almost imperceptibly as the wasting of the limb grew by degrees more and more obvious. In other cases to which he alludes, the affection comes on suddenly, almost instantaneously; and the loss of voluntary power over the affected muscles is immediate. Mr. Shaw regards cases of the former kind as being induced by a deranged state of the

bowels; "the affection of the brain being, as it were, intermediate between the disturbance of the bowels and the paralytic muscles." Those of the latter kind he conceives to depend on a sudden change in the brain or spinal cord, or in the nerves which supply the affected parts; though they, too, will often be found to be more remotely connected with disordered digestion. These cases occur especially about the period of weaning, and are commonly ascribed to the irritation of teething; sometimes they come on at a late period of childhood, and are consequent on some severe attack of illness, especially of fever, or of the exanthemata. He enters, however, into comparatively few details on the subject, his object being rather to excite general attention to it.

To the best of my knowledge, Dr. Underwood was the first writer on the dis-

eeses of children who noticed this affection; but he does not attempt to discriminate between those cases in which palsy is the result of organic disease of the brain, and those which depend on less grave causes. He was aware, however, that serious disease of the brain was not invariably present, and mentions that such curable cases usually recover very rapidly under the employment of brisk purgatives.

Feiler,\* relates, under the title of "Aridura Crurum," a case of atrophy of one lower extremity in a girl between twelve and thirteen years of age. The patient was greatly benefited by friction and various stimulant applications to the wasted limb, and to the loins; but the observation is related as an isolated instance of an affection to which nothing analogous had since come under his notice.

In Dr. Marshall Hall's work, "On the Diseases and Derangement of the Nervous System," are some brief remarks on paralysis from dentition,† together with the particulars of a very interesting case of the disease. His observations, however, are rather suggestive, and he enters into no details on the subject.

Dr. Henry Kennedy,‡ has written a valuable paper on the subject of Infantile Paralysis. He seems to be most familiar with the affection as it occurs in the infant at the breast; in whom the upper extremity is in his opinion most frequently attacked. He notices the suddenness of the seizure, and its occurrence during apparently perfect health. He further remarks, that the lower extremity is sometimes affected in a similar manner; that sometimes instead of being paralysed he has seen it contracted and drawn up close to the body; and that in some instances not only is the power of motion gone, but the sensibility of the affected limb is greatly increased, the child crying on the slightest touch. Derangement of the bowels, and the irritation of teething, are the two causes to which he thinks the disorder may usually be referred; but he has also seen it occur after remittent fever. Lancing the gums, purging, and alterative remedies, are the chief means which he recommends for the cure of this affection.

The greater part of the essay, however, is occupied, not with details concerning the disorder itself, but with remarks on other affections with which it may be confounded. These are, either disease of a joint; injury to a limb, as, for instance, fracture; injury to a nerve, as when the arm is allowed to hang over the back of a chair; paralysis dependent on disease of the brain or spinal cord, and lastly, arthritis with suppuration.

A brief notice of paralysis in teething children is contained in a recent number of the American Journal of the Medical Sciences, by Mr. G. Colmer. The writer, whose communication does not exceed a few lines, mentions having seen a child so affected in a village through which he passed, and states that the inhabitants informed him that several infants in the neighbourhood had suffered in a similar manner.

Dr. M'Cormack, of Belfast, has published in the *Lancet* for May 27, 1843, some remarks on Infantile Paraplegia. He relates two cases of the disease affecting both lower extremities in children; but the history of each is very deficient in detail. He inclines to the opinion that this impaired power over the lower extremities arises from concussion of the spinal cord, or from injury to the sciatic nerve, and does not appear to have met with any case in which either upper extremity suffered a similar loss of motor power.

It will be my aim in this paper to supply in some slight degree the absence of detail with reference to this, and other similar paralytic affections, by relating the particulars of some of the cases which have come under my own notice.

In doing this it is my intention to leave out of consideration those cases in which certain limbs or certain muscles become palsied during the progress of organic diseases of the brain or spinal cord. Palsy from such a cause is less common during childhood than in the adult, though instances of it are by no means unusual. Thus, during the past summer, a girl, aged about three years, was brought to me suffering from hemiplegia, with very marked reflex movements of the palsied limbs, induced by the spinal marrow having become affected in the progress of scrofulous disease of the vertebræ. A boy, too, eight years old,

\* *Pädiatrik, etc.* 8vo. Sulzbach 1814, p. 350.

† *Ib.* p. 198.

‡ *Dublin Medical Press*, Sept. 29, 1841.

is at the present moment under my care, in whom all the indications of cerebral tubercle exist, and in whom the motor power of one side of the body is very considerably impaired. In both of these instances, as well as in many others which might be adduced, the paralysis is only a secondary incident, merely a symptom betokening the advances of a grave and incurable malady; and to enter upon their examination would be foreign to the present purpose.

It may perhaps be convenient to arrange these cases in three classes; of which—

*The first* will include those instances in which the paralysis was congenital.

*The second*, those in which it accompanied or followed convulsions, or other symptoms of cerebral disorder.

*The third*, those in which the paralysis occurred without any indication of cerebral disease.

Ist. Cases of congenital paralysis.

Rebecca Swan, aged eight years, 19, Regent Street, Poplar, one of ten children, of whom nine are still living. One died at the age of two months, but all the others are said to be strong and healthy. Her father is healthy, but not robust. Her mother is in the last stage of consumption; and this disease is hereditary on her mother's side.

Rebecca was a delicate child from birth, and her relatives assert that from her very earliest infancy she has had imperfect use of her right side.

She is of a spare habit, and rather sickly appearance; but her manner is cheerful, and her intellect does not seem at all defective.

The palsied condition of her right side is very obvious: she limps in her walk, treads always on her toes, with her heel raised very considerably above the ground, and turns her foot inwards at every step she takes.

She can use her right arm, though but imperfectly; the fingers of the right hand are constantly flexed and drawn into the palm; and though by a great effort she can extend them, yet the moment her attention is withdrawn they return to their former flexed position.

Sensation is as perfect in the right limbs as in the left; but their wasted condition and smaller size, as compared with the left extremities, show that nutrition has been but very imperfectly carried on.

The left arm measures, from the acromion to the end of the radius,  $14\frac{1}{4}$  inches; right, 13 inches.

The girth of the left arm at the middle of the humerus,  $5\frac{3}{4}$  inches; right, 5 inches.

From the left trochanter to the heel, 24 inches; right,  $22\frac{1}{2}$  inches.

The right leg and thigh measured considerably less in circumference than the left; but I have not preserved an account of their exact dimensions.

A similar case, but one in which the deformity was still more marked, came under my notice some months since at the Finsbury Dispensary. The patient in this instance was a girl aged eighteen years, in whom not only were the left extremities much shorter and smaller than the right, but the left half of the face also was very much smaller than the right. The parent of the girl stated that the inequality in size of the two halves of the body had existed from earliest infancy, and had not succeeded to a fit or any other indication of acute cerebral disease. The left side was weak, and motion imperfect, but sensation seemed to be unimpaired. The patient in this case was rather deficient in intellectual endowments.

2d. Cases in which the paralysis accompanies or follows convulsions or other symptoms of cerebral disorder.

The cases included in this class are of more frequent occurrence, and of greater practical importance, than the former, since they often excite great solicitude; though they for the most part eventually do well. The morbid phenomena are very frequently connected with disturbance in the process of dentition; and it will be seen that, in the former of the two following cases, they occurred during the period of teething. In this instance, however, there were but few indications of disorder of that process; nor did the fluctuations in the child's condition, nor its ultimate recovery, appear to be in any way influenced by the eruption of teeth.

Walter Scott Taylor, aged fourteen months, living at 39, Great Hunter Street, Old Kent Road, was the delicate child of parents who had lost two children in what they called a decline. In the first week of January 1840 he had a mild attack of measles, from which he recovered without any unfavourable symptom; but his parents placed him under medical care on

January 28th, on account of rickety swellings of his joints, which however were very slight.

On January 30, at 4 p.m. he was suddenly seized with convulsive movements of the left arm; his mouth was stated to have been drawn to the left side, and his left eyelid drooped. This condition lasted for about an hour, and when it went off he seemed as well as before, and slept moderately in the night. At 8 a.m. however, on the 31st, a fit came on similar to that of the preceding night, and lasted for nearly an hour. It returned at 11 a.m. and was then accompanied with rotatory motion of the head. Before the fit came on he cried much, as if in pain, and afterwards frequently threw back his head. In the course of the day it was observed that he did not use his left arm; and on the following morning, after having passed a good night, the arm hung powerless by his side, and the hand was useless. As day advanced, he gradually regained the use of his arm; and in the afternoon, when I visited him for the first time, he could move his fingers, though the hand was weak, and he employed the right arm in preference to the left. No remains then existed of the paralysis of the face or eyelid; both pupils acted equally under the stimulus of light. The child seemed quite cheerful; the bowels acted regularly, and the tongue was clean.

I ordered no medicine for the child; but visited him again on the 7th, when I found him in much the same state as before. He could move the left arm, but not the hand; and his mother thought that he limped somewhat with the left leg, dragging it behind the other. His head was rather hot; but he seemed quite cheerful, rested well at night, and all his functions were performed naturally.

I ordered small doses of mercury and chalk every evening.

On Feb. 17, there was no increase of power in the hand; he still dragged the left leg in walking; did not close the left eye so completely as the right. He was still cheerful, but the tongue was white, and his bowels were constipated.

On the 22d, at 4 p.m. his mother noticed that he could not use his left leg. He continued unwell and fretful until he was freely purged by castor-oil, after which he recovered his usual

health. I saw him on the 25th, when he had acquired more power over the left hand, but the left leg was quite powerless, and he dragged it behind him as though it did not belong to him. He was still quite lively and cheerful; his tongue was moist and clean, but his gums were slightly swollen. I lanced the gums, continued the use of the Hydr. c. Cretâ, and ordered a liniment to the leg.

On the 28th the state of the leg was much the same, but the child had acquired more power over the hand.

The Hydr. c. Cretâ was now discontinued, and a liniment was ordered for the leg.

March 3d.—Has recovered some use of the left leg, but it still does not serve him in walking. His bowels are disposed to be costive, unless castor-oil is given daily.

From this time he continued to improve, under the use of purgatives and stimulant liniments to the leg. His recovery, however, was very gradual, and could not be considered complete until the end of April.

William Cheshire, aged  $3\frac{1}{2}$  years: was never a strong boy, being always what his mother calls nervous, though he had not suffered from any particular illness until Dec. 30, 1840, when he had a fit, which lasted for five minutes; during it he struggled much, and his mouth was drawn to the left side.

On Dec. 31, some one opening his bed-room door suddenly, another fit came on, which lasted for ten minutes; during the fit he struggled, squinted, and his mouth was drawn to the left side; and the squint and distortion of the face continued for some time after the fit was over.

He was brought to me on Jan. 1, 1841. He was a fair, delicate boy, with blue eyes and a strumous aspect; his manner was quite natural, and there was no heat of head. His mouth was drawn slightly to the left side; he could not close his right eye; and in frowning or crying the muscles of the left side of his face only were brought into action, the right side remaining quite motionless. Sensation was perfect on both sides of the face. His bowels were open; tongue moist, but coated with brown fur; pulse 105, with power.

I ordered him two grains of calomel every night, and a senna draught every morning.

On the 5th he had no return of the fits, but the paralysis of the face continued, and the child complained of pain behind the right ear.

Four leeches were applied behind the right ear, and gave immediate relief to the pain; the same medicines as had before been given to him were persevered in, and the child regained the use of the right side of his face so rapidly, that by the 9th of January the signs of paralysis had almost entirely disappeared. The purgative treatment was continued for a few days longer, and a stimulant embrocation was ordered for the face, and by the end of the month the child was discharged cured.

3d. Cases in which the paralysis occurred without any indication of cerebral disease.

These cases are of the most frequent occurrence; they often run a very chronic course, and sometimes appear to be incurable, though for the most part gradual recovery takes place.

In some instances, children, apparently in perfect health, are suddenly attacked by this form of paralysis, but more frequently it follows an attack of measles or scarlatina, or comes on in strumous and debilitated children, in whom it is usually associated with obstinate constipation of the bowels.

Of the sudden supervention of paralysis in a perfectly healthy child the following may serve as an instance.

Isabella Smith, aged 2 years and 9 months: was always a healthy child, and had had none of the diseases of infancy, with the exception of hooping-cough.

In the middle of June, 1841, she went to bed in perfect health, but when she arose in the morning she was quite unable to move her right leg, or to stand.

Her mother took her to a surgeon, who ordered something to rub the leg, and the child had since so far recovered as to be able, when brought to me in February 1842, to stand, and to walk, though with difficulty. In walking she turned the right foot quite out at right angles with the body, and did not raise the foot above the ground.

The right leg was half an inch smaller in girth round the calf than the left, and it felt considerably colder to the touch. The child was fat, looked healthy, her bowels were open, and all her functions were performed naturally.

I never saw this patient again.

Henry Barrett, aged 16 months, 4, Cottage Place, Granby Street, Lambeth: the healthy child of healthy parents: went to bed quite well on the evening of July 20, 1841. In the course of the night he became restless and very feverish, and in the morning his mother found that he had completely lost all power over his right leg. In other respects he continued well, except that his bowels were constipated.

He was brought to me on July 23, 1841. I found him to be a well-grown, fair child, pale, and of a weakly appearance, but presenting no marks of scrofula, nor of any serious derangement in his system.

He moved his limbs perfectly, with the exception of the right leg. On that limb being pinched, he cried, and moved his toes slightly, but was quite unable to draw back his foot or leg, or to move the thigh. I ordered him a small dose of jalap immediately, and directed it to be repeated every other morning.

July 27th.—Child's bowels were still confined, not having acted more than two or three times since last note. His health was still good, and he had gained a little more power over the limb: he could not move the leg at all, but moved the thigh slightly.

Aug. 6th.—The child had taken the powders daily since July 27th. His bowels were now regularly open, his health good, and he had acquired more power over the palsied limb. He could stand, but was unable to put the foot flat to the ground; he could move the leg a little, but did so chiefly by means of the muscles of the thigh.

He was still improving, when he was attacked by pneumonia, of which he died at the beginning of September. I could not obtain permission to examine the body.

Alfred Appleby, aged  $7\frac{1}{2}$  years, living at 2, Clifford Street, Walworth, the child of healthy parents, had had good health since he was four years old; before which time he had frequent attacks of croup.

He seemed in his usual health, when, on February 6, 1841, his mother noticed that he used his left limbs much less than his right.

He was brought to me on Feb. 27: he was a pale delicate boy, whose

pulse was extremely feeble, bowels rather constipated, and tongue slightly furred. In walking he dragged his left leg, and turned the foot inwards; and though he could use the left hand, yet he was unable to grasp any object as firmly, or to hold any thing as tight, as with the right hand. Sometimes, when walking or standing, his left leg gave way under him, and he fell to the ground, though not in a fit, nor with any impairment of his senses.

I ordered him purges of calomel and senna daily, which acted violently, but did not at all improve his condition. I therefore began on the 2d of March to give the *vinum ferri*, and discontinued the employment of purgatives. Within a week he had acquired considerably more power over the leg, but the condition of the arm was much as before. I now ordered a stimulating liniment for the arm, directed the application of a flannel roller to the limb, and continued the use of the iron. The child now improved considerably; and after persevering in this plan of treatment was discharged on April 20th, in much more robust health than before, and having perfect use of both sides of the body.

Somewhat similar to the preceding is the case of Sarah Macartney, aged 4 years, who was brought to me on July 2, 1841. She had always been a delicate child, and about eighteen months before had had a very serious attack of measles, attended with inflammation of the lungs. She was in her usual health, however, last February, when, after having been for some days very heavy in her head, her mother noticed that she had lost the use of her left leg and arm. After taking medicine, the power over the left leg returned in the course of a few weeks, but she had not regained the complete use of her left arm.

The child's appearance was extremely unhealthy, and she was suffering from strumous ophthalmia. Her pulse was frequent and feeble, her bowels are confined, and the evacuations dark; tongue pale and moist; appetite bad; thirst considerable.

She had perfect use of all her limbs, with the exception of the left arm, which she could move slightly, but could not raise it to her mouth or head, nor grasp any thing with that hand. The fingers of the left hand were flexed, and the thumb was drawn into the palm.

She was unable to extend her fingers by any effort of the will, but could straighten them with the other hand without pain or difficulty. Sensation was perfect in the affected limb.

I ordered a small dose of the iodide of iron, three times a day, with a powder composed of rhubarb and the *Hydr. c. Cret.* to be taken every night, and a liniment for the arm.

In a fortnight she had acquired more power over the fingers, could grasp a little with the hand, but the state of the arm was unchanged.

She was now sent into the country: at the end of a week her general health was much improved; she could straighten her fingers, and had acquired much more power over the left arm, though she was still unable to raise it to her mouth or head.

On August 13, the same plan having been persevered in, her recovery was almost complete; she was now able to use the left arm freely, and could put the left hand on the top of her head, or bring it to her mouth.

At the end of the month she was discharged quite well.

Permanent palsy of the limb appears to be the result in some cases. This seems to have occurred to William Hinton, aged  $3\frac{1}{2}$  years, who, though of a strumous and unhealthy appearance, was reported by his mother to have always had good health. About ten months before he came under my notice it was observed that his left leg and arm seemed weak. As his general health continued good, no remedial measures were employed, although the impairment of power over his left extremities continued. He never completely lost the use of his left leg, but after some weeks began to regain power over it, and when brought to me could use it as well as the other. The left arm, however, grew worse, until it became completely useless, the boy having no power to move it, nor could he bend his wrist, though he could move his fingers.

The deltoid and other muscles of the left arm were so much wasted that its circumference was not much more than half that of the right. The left humerus, too, hung out of the socket, so that a finger could be placed between the head of the bone and the acromion, and a piece of tape extended from the top of the acromion to the tip of the index finger of the hand, measured—

On the left side  $12\frac{3}{4}$  inches.

„ right „ 12 „

Sensation was perfect in the paralysed limb.

Of the subsequent history of the boy I am ignorant, since he was not brought to me again.

The cases now related may serve as specimens of the usual characters of this affection. In the majority of instances it is important rather from the anxiety it occasions the relatives than from any thing really grave in its nature.

It will be perceived, that, though perhaps most frequent in teething children, it is by no means confined to the period of dentition. It often involves both the upper and lower extremity, in which case, as in adults affected with hemiplegia, the lower always recovers much the more rapidly. The paralysis is usually incomplete, some power of moving the fingers or toes remaining, while neither the arm nor leg can be moved. Sensation, as far as one can judge, is unimpaired, and I have not in any instance observed reflex movements. Occasionally sensation is exalted; a circumstance which, when the lower limb is the seat of the affection, and the paralysis is incomplete, may lead to the apprehension of hip-joint disease. In such a case the child bears all its weight on the healthy limb, turns the foot of the affected side inwards when walking, and stands with the toes of that foot resting on the dorsum of the foot of the healthy side. Still it will usually be found that the exaggerated sensibility of the paralysed limb varies greatly at different times, while that extreme increase of suffering produced in cases of hip-joint disease by striking the head of the femur against the acetabulum by a blow upon the heel, and the fixed pain in the knee of the affected side, so characteristic of disease of the hip-joint, are absent; and these points of difference will, I should imagine, usually suffice to distinguish between the two affections.

With reference to another important point—how we may discriminate between paralysis from structural changes in the brain, and those less grave forms of which this paper treats—I would observe, that the paralysis which occurs in cases of tubercle of the brain does not usually supervene suddenly, nor

does it for the most part at *first* involve both the upper and lower extremity, but the upper is generally the first affected. In cases of tubercle of the brain, headache, and other vague indications of cerebral disease, have usually existed for a longer or shorter time, when the power over one limb is observed to be impaired. The patient at first uses that limb less willingly than the opposite one, but still moves it, though in a tremulous manner, nor is it till after some time that any thing approaching to complete paralysis comes on; and when it does it is usually associated with an involuntary tremor or twitching of the limb.

The cases with reference to which most doubt will exist are those in which the paralysis has succeeded to an attack of convulsions. Even here, however, there are circumstances which will often help us to discriminate between the graver and the less formidable malady. In tubercle of the brain it is but very seldom that any thing approaching to complete paralysis follows the first attack of convulsions, but usually, firm contraction of the fingers of one hand, or of some joint of one or other extremity, succeeds to the convulsion, and continues for some hours, or even longer, and it is only gradually, and after the recurrence of several fits, that the paralysis of the limb becomes very obvious. Cerebral tubercle, too, is almost always attended with headache, and a peculiar stupor, which usually precede, and almost invariably follow, any convulsive seizure.

The prognosis may usually be favourable, but the probably tedious convalescence should be borne in mind. The case of Hinton, however, shows the possibility of the paralysis being permanent; and Dr. Abercrombie relates an instance in which paralysis of the right leg, coming on in an infant of 18 months, continued during the subsequent life of the patient, who, when a tall and strong young woman of 20 years, still remained entirely paralytic of her right lower extremity.

It has been seen by the details of the cases how largely purgatives entered into the plan of treatment. That state of habitual constipation, however, which is often met with in weakly children, as in some of the subjects of the foregoing observations, is not best

overcome by the employment of drastic purgatives, but rather by the persevering use of gentle aperients. The cases of Appleby and Macartney both illustrate the benefits of a tonic plan: in Appleby's case very free purging had been previously used without the

slightest good effect. Stimulant liniments have often appeared to be of great service; but I have had no experience of the effects of electricity, though I had purposed trying it in Hinton's case if he had continued under my care.









